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Fig. 12. Dorsal view of head, thorax and basal abdominal segments of the fossil insect, *Corydaloides scudderi*. Wings shortened. Figure based upon material from various sources.

Fig. 13. Head and pronotum of the Coleopteron *Embaphion*, dorsal view.

Fig. 14. Dorsal view of the sixth and seventh abdominal segments of the Phasmid *Ectatosoma*, shown from the side in Fig. 11.

Fig. 15. Dorsal view of two abdominal segments of a nymph of the New Zealand Ephemeropterid, *Oniscigaster* based on figures by MacLachlan, 1876.

Fig. 16. Dorsal view of pro-, meso-, and metanotum of *Lepisma*.

Fig. 17. Dorsal view of five segments of a Diplipod.

Fig. 18. Dorsal view of thorax and two abdominal segments of a nymphal Plecopteron (*Pteronarcys*).

Fig. 19. Dorsal view of head and five segments of an Isopod (*Porcellio*).

Fig. 20. Dorsal view of anterior portion of a Trilobite (*Triarthrus*), based on figures by Beecher and others.

For the identification of the immature Ephemeropterid depicted in Fig. 4, I am indebted to the kindness of Dr. Morgan, of Mt. Holyoke College, and for the identification of the immature Plecopteron depicted in Fig. 18, I am indebted to the kindness of Dr. Smith of the same institution.

NOTES ON CYCHRINI.

BY CHARLES W. LENG,

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In a letter from the late Frederick Blanchard on the subject of Dr. Hans Roeschke's "Monographie des Carabiden-Tribus Cychnini" this sentence occurs: "I was very much impressed with the thoroughness of the treatment and also with the feeling that it was almost presumptuous to consider it critically or to comment." All must concur in the sentiment thus expressed; and it is only because the subject matter of these notes has been long under consideration and discussion with Mr. Schaeffer as well as Mr. Blanchard that they are printed.

The locality cited on page 267, "Washington, D. C. (Charleroi)," should probably be Charleroi, Washington Co., Pa. A number of specimens of several species have been distributed from that locality and there is no connection known between "Charleroi," either as

the name of a collector or of a locality, and Washington, D. C. By thus eliminating Washington, D. C., from the distribution data for the species *Sphaeroderus nitidicollis*, the phrase "vom Atlantischen Ozean" loses part of its foundation.

The treatment of this species as one occurring from the Atlantic Ocean to West Virginia and northward to Hudson Bay, with but one sub-species in its range of variation is contrary to the descriptions of Chevrolat, Chaudoir, and Leconte; and cannot be satisfactorily applied to the specimens at hand. The catalogue on page 274 should read:

1. **nitidicollis** Chevrolat, 1848.
Subsp. **brevoorti** LeConte, 1848.
granulosus Chaudoir, 1861.
nitidicollis G. H. Horn, 1878, ex parte.
2. **schaumii** Chaudoir, 1861.

The first was described from Newfoundland and occurs there only. In recent years many specimens have been collected by W. S. Genung, L. P. Gratacap, P. G. Bolster, G. P. Engelhardt and myself; they are uniform in size and color and show no tendency to intergrade with the other two.

The second was described from Maine, and occurs at Lake Superior, according to Mr. Blanchard's report on the Leconte collection, and near the summit of Whiteface Mt., in northern New York, where it has been found by the writer. It is highly probable that *granulosus* of Chaudoir is identical, as stated by Dr. Roeschke, and that all the northern localities, Hudson Bay, White Mts. of New Hampshire, perhaps even Canada, cited by him, are inhabited by this species. As to the more southerly localities cited, I have never seen any *brevoorti*, correctly determined, from such; and, being convinced that Dr. G. H. Horn confused the more roughly sculptured forms of *lecontei* with *brevoorti*, as indicated by his remark that every intergrade of sculpture could be found, I suspect that the specimens on which Dr. Roeschke's citations of Virginia, West Virginia, and Charleroi were based were not *brevoorti* at all, but rough forms of *lecontei* erroneously identified by Horn or his followers.

The third (*schaumii*) was described from Ohio, and has been found in recent years by R. J. Sims in the northern part of that state and distributed by him or by Charles Dury. The citations of

Canada, West Virginia, Virginia (Roeschke), and Indiana? (Leconte coll. fide Blanchard) are plausible; but the "Washington, D. C.," locality is contrary to probability and to all the information I can gather, and is possibly also based on the "Charleroi" confusion mentioned above.

It is useless to repeat here the minute descriptions of these three forms, which have been well written by their respective authors; but briefly it may be said that *brevoorti* is a comparatively small (about 12 mm.) dark æneous insect, while *nitidicollis* and *schaumii* are both larger (about 18 mm.) and more brilliantly colored, differing between themselves in form of thorax and in punctuation. The main object of these notes is to point out that *brevoorti* is not a synonym of *nitidicollis*; and that no one of the three forms under discussion is an Atlantic coastal plain insect or ordinarily liable to be found at Washington, D. C.

There are other criticisms on Dr. Roeschke's paper which are, however, more matters of opinion than of fact, and may therefore be merely mentioned for the guidance of future students of the tribe. In the subgenus *Irichroa*; for instance, *germari* is more nearly related to *guyoti* than to *andrewsii*; in *Sphæroderus*, *bicarinatus*, *stenostomus* and *lecontei* are valid species; the former varies indeed in the development of the elytral carinæ and is in that character approached by some examples of *lecontei*, but it never loses the peculiar parallel sided form, of which no examples of *lecontei* present any suggestion; the two latter are separable by any number of characters, and, since their range is in part the same territory, it is impossible to regard them as geographical races one of the other.

In regard to *Sphæroderus canadensis*, it may be mentioned that Mr. Blanchard in his letters points out that this species is represented in the White Mts. of New Hampshire, as well as in the localities given by Dr. Roeschke, but by a race not identical with the typical form; the interstitial erect setæ noted in the typical form are lacking and the elytral striæ are impunctate. This race was called *blanchardi* in our correspondence and may be described as follows:

***Sphæroderus canadensis* subsp. *blanchardi* n. subsp.**

Similar to *canadensis* in size, form and color, but with the margins less blue, the marginal and epipleural punctures less deep and coarse, the elytral margin less strongly reflexed, the elytral striæ almost impunctate, the first

and second only showing feeble punctuation, and with the disk of the elytra destitute of the setigerous punctures that occur on the fourth and seventh intervals in *canadensis*. In *canadenis* the fourth interval bears six to eleven setæ, the seventh interval five to eight setæ; in *blanchardi* no setæ or setigerous punctures are found on these intervals. The submarginal interval also usually bears fewer setæ in *blanchardi* (about 12) than in *canadensis* (about 16). Length, 11 to 13 mm.

Occurs in White Mountains of New Hampshire and near the summit of Mt. Watatic in Massachusetts, very near the New Hampshire Line. Type from Randolph N. H., in my collection; other specimens in Mr. Blanchard's collection.

In regard to the subgenus *Pseudonomaretus*, it may also be added that the tendency toward a loss of the elytral striæ is carried further in a specimen in Mr. Blanchard's collection from North Carolina (Highlands) than in any of the described species in that only one sutural stria remains. It probably represents a new species, though additional specimens might show intergrading forms. The rarity in collections of most of the species of *Nomaretus* inhabiting the Allegheny Mts. makes their study difficult especially in determining the limits of individual variation.

NOTES ON CICADAS FROM THE UNITED STATES WITH DESCRIPTIONS OF SEVERAL NEW SPECIES.

BY WM. T. DAVIS,

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While the writer has a rather large collection of Cicadas from the United States, more material may cause the opinions here expressed to be considerably modified. Especially is this the case regarding those species originally described without locality, such as *swalei*, *olympusa*, *viridifascia* and *sex-guttata*. More specimens are also to be desired from the type locality of what is here considered as Say's *Cicada vitripennis*.¹

¹ The author is indebted to Mr. Chris. E. Olsen for making a number of drawings of genitalia, and to Mr. Howard H. Cleaves for taking the photographs from which the plates have been made.